

REMARKS

Claims 1-15 are all the claims pending in the application.

Applicants note that a number of editorial amendments have been made to the specification for grammatical and general readability purposes. No new matter has been added.

I. Objection to the Drawings

The Examiner has objected to the drawings for the reasons set forth on page 2 of the Office Action. In particular, the Examiner asserts that Figs. 18-21 and 41-48 should be labeled as Prior Art. Applicants are submitting herewith replacement sheets for Figs. 18-21 and 41-48 which include the --Prior Art -- label. Accordingly, Applicants kindly request that the objection be reconsidered and withdrawn.

II. Claim Rejections under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 7-10 under 35 U.S.C. § 112, second paragraph as being indefinite. In particular, the Examiner has taken the position that claims 7-10 are omnibus type claims. Applicants respectfully disagree with the Examiner's position.

In particular, Applicants note that MPEP § 2173.05(r) discusses omnibus type claims, and indicates that an omnibus claim "reads as follows: A device substantially as shown and described" (emphasis added). As claims 7-10 clearly do not merely recite "a device substantially as shown and described", but instead, clearly indicate what is included or excluded by the claims, Applicants respectfully submit that the Examiner's position that claims 7-10 are omnibus claims is incorrect.

In this regard, Applicants respectfully submit that the language recited in claims 7-10 makes it clear what is included or excluded by the claims. For example, with respect to claim 7, Applicants note that this claim depends from claim 1, and therefore, clearly includes all of the features recited in claim 1. In a similar manner, claim 8 depends from claim 6; claim 9 depends from claim 7; and claim 10 depends from claim 8.

Furthermore, Applicants note that MPEP § 608.01(n)(III) sets forth that the “test as to whether a claim is a proper dependent claim is that it shall include every limitation of the claim from which it depends (35 U.S.C. 112, fourth paragraph) or in other words that it shall not conceivably be infringed by anything which would not also infringe the basic claim.”

Accordingly, as claims 7-10 include every limitation of the claim(s) from which they depend and, therefore, cannot be conceivably infringed without also infringing their respective base claim(s), Applicants respectfully submit that claims 7-10 are proper dependent claims based on the guidelines set forth in MPEP § 608.01(n)(III).

In view of the foregoing, Applicants kindly request that the rejection of claims 7-10 be reconsidered and withdrawn.

III. Claim Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 13 and 14 under 35 U.S.C. § 102(e) as being anticipated by Chakravorty (U.S. 6,181,569).

Claim 13, as amended, recites that the forming of a contact area increasing portion comprises having an extension portion-forming member come in contact with the end surface of

the bump. Applicants respectfully submit that Chakravorty does not disclose or suggest at least this feature of amended claim 13.

Chakravorty discloses a semiconductor device which includes a wafer 301, chip contact pads 304, a first dielectric layer 305, metal traces 307, a second dielectric layer 308, and bumps 311-1 (see Fig. 5a). As disclosed in Chakravorty, the bumps 311-1 are selectively deposited so as to fill up the clearance holes 309 that are formed in the second dielectric layer 308 (see col. 8, lines 57-61).

As shown in Fig. 8b of Chakravorty, the entire structure is covered by an encapsulant layer 312 (see col. 10, line 66 through col. 11, line 1). As noted by the Examiner in the Office Action, after the structure has been encapsulated, the encapsulant layer 312 which covers the bumps is then removed by a polishing procedure such that the bumps become flat and exposed (see Fig. 8c and col. 11, lines 1-14).

Thus, in Chakravorty, while a polishing procedure is disclosed for removing portions of an encapsulant layer such that bumps become flat and exposed, Applicants respectfully submit that Chakravorty does not disclose or suggest that an extension portion-forming member comes in contact with an end surface of the bump so as to form a contact area increasing portion, as recited in amended claim 13.

In view of the foregoing, Applicants respectfully submit that Chakravorty does not disclose, suggest or otherwise render obvious all of the features recited in amended claim 13. Accordingly, Applicants submit that claim 13 is patentable over Chakravorty, an indication of which is kindly requested.

Regarding claim 14, Applicants note that this claim has been amended to recite the same feature as discussed above with respect to claim 13. Accordingly, for at least the same reasons as discussed above with respect to claim 13, Applicants respectfully submit that claim 14 is patentable over Chakravorty.

IV. Claim Rejections under 35 U.S.C. § 103(a)

The Examiner has rejected claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Chakravorty. Claim 15 depends from claim 14. As discussed above, Applicants respectfully submit that Chakravorty does not disclose, suggest or otherwise render obvious all of the features recited in amended claim 14. Accordingly, Applicants submit that claim 15 is patentable at least by virtue of its dependency.

V. Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 1-6, 11 and 12 are allowed.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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